



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

646.9813

Job Sheet 171185



Part No: 646.9813

Job Qty: 8 ea

Part Name: Lower Deflector Low



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 1/30/18

Job Tracking No:

Due Date: 2/28/18

Created By: Michelle Gagnon-Donovan

Type: Stock

Description:

Note: DWG REV A SHEET 6 IPP REV: A NEW ISSUE 12/09/10 JFS VERIFY BY: DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	8 Ea		2/27/18	0.00	0.00	Start Up Machining-1		Kt 18-04-12
100	Bandsaw	8 pcs		2/27/18	0.00	0.01	Bandsaw1		Kt 18-04-12
110	CNC Vertical Machining	8 pcs		2/28/18	0.16	4.28	HAAS1-1		Kt 18-04-12
120	QC	8 pcs		2/28/18	0.00	0.00	QC2 Machining-1		Kt 18-04-12
130	QC	8 pcs		2/28/18	0.00	0.00	QC8 Machining-1		Kt 18-04-12
140	Outsource	8 pcs		2/28/18			ATG001-VC		Kt 18-04-12
150	Packaging	8 pcs		2/28/18	0.00	0.00	Packaging2		Kt 18-04-12
151	QC	8 pcs		2/28/18	0.00	0.00	QC5		Kt 18-04-12
180	Packaging	8 pcs		2/28/18	0.00	0.00	Packaging3-1		Kt 18-04-12
190	QC21-SA	8 Ea		2/28/18	0.00	0.00	QC21		Kt 18-04-12

Part Op 100 - Cut Blank at 17.000"

Descriptions: 110 - 1-Machine per folio FB131

140 - Issue P/O to ATG : P0031623 Hard Anodize Black and Prime as Per Dwg 646.9800 Rev. A

180 - ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M7075T6S0.375X5.000 S030438 S044636 } 2x	M7075T6S0.375 X 5.000	5.6800 ft (.71 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M7075T6S0.375X5.000	6	55	0



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaro.com
www.dartaerospace.com

Container No: S060389



Part: 646.9813

Job No: 171185

Serial No/Batch: S060389

Revision:

Inspector:

Date: 04/12/18

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Lower Deflector, Low	0.130Inches $\pm$ 0.020	0.150 0.110		
2	Lower Deflector, Low	45.0Angle $\pm$ 0.5	45.5 44.5		
3	Lower Deflector, Low	0.040Inches $\pm$ 0.020	0.060 0.020		
4	Lower Deflector, Low	45.0Angle $\pm$ 0.5	45.5 44.5		
5	Lower Deflector, Low	2.110Inches $\pm$ 0.002	2.112 2.108		
6	Lower Deflector, Low	4.220Inches $\pm$ 0.002	4.222 4.218		
7	Lower Deflector, Low	0.177Inches + 0.005 - 0.001	0.182 0.176		
8	Lower Deflector, Low	0.340Inches + 0.000 - 0.005	0.340 0.335		
9	Lower Deflector, Low	0.700Inches $\pm$ 0.020	0.720 0.680		
10	Lower Deflector, Low	0.375Inches $\pm$ 0.010	0.385 0.365		
11	Lower Deflector, Low	0.310Inches $\pm$ 0.010	0.320 0.300		
12	Lower Deflector, Low	3.020Inches $\pm$ 0.020	3.040 3.000		
13	Lower Deflector, Low	5.590Inches $\pm$ 0.020	5.610 5.570		
14	Lower Deflector, Low	6.330Inches $\pm$ 0.020	6.350 6.310		
15	Lower Deflector, Low	0.188Inches + 0.005 - 0.001	0.193 0.187		

Plex 1/31/18 9:27 AM Dart.Gagnon.Michelle

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 03828

SHEET 1 OF 8

DWG NO. 646.9800

REV: NC

PREPARED BY: B. PETERS

DATE: 03/19/13

EFFECT ON DWG
☒ INC. ☐ UNINC.

DWG TITLE: DEFLECTOR

APPROVED BY:

ENGR

MFG

QC

EFF:

NEXT ORDER

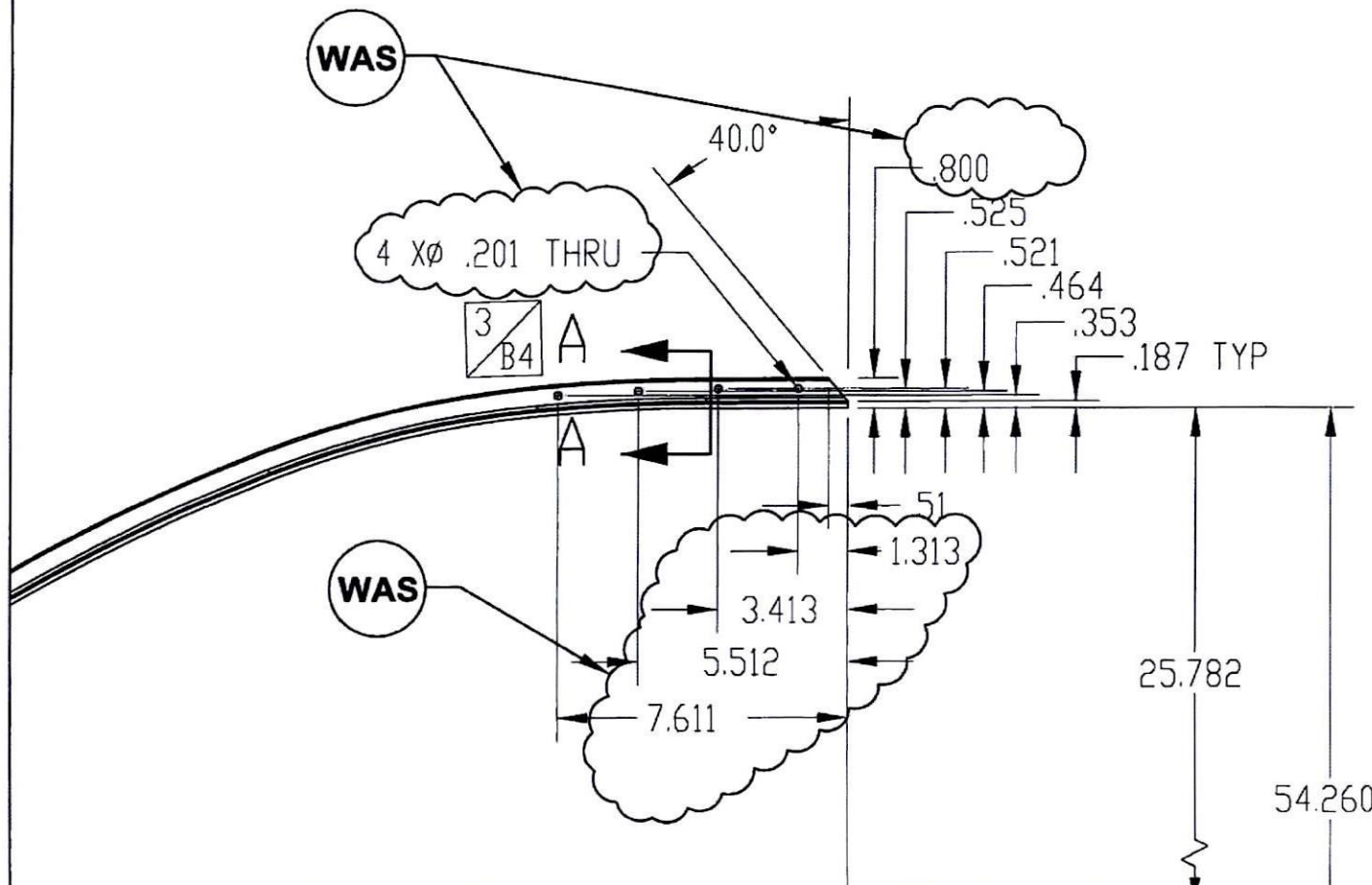
TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: REVISED CORNER RADIUS, TOLERANCES, AND ADDED INSPECTION DIMENSIONS.

ECR:

D-13-029

SHEET 1, ZONE A5-A6 & B5-B6 WAS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 171185

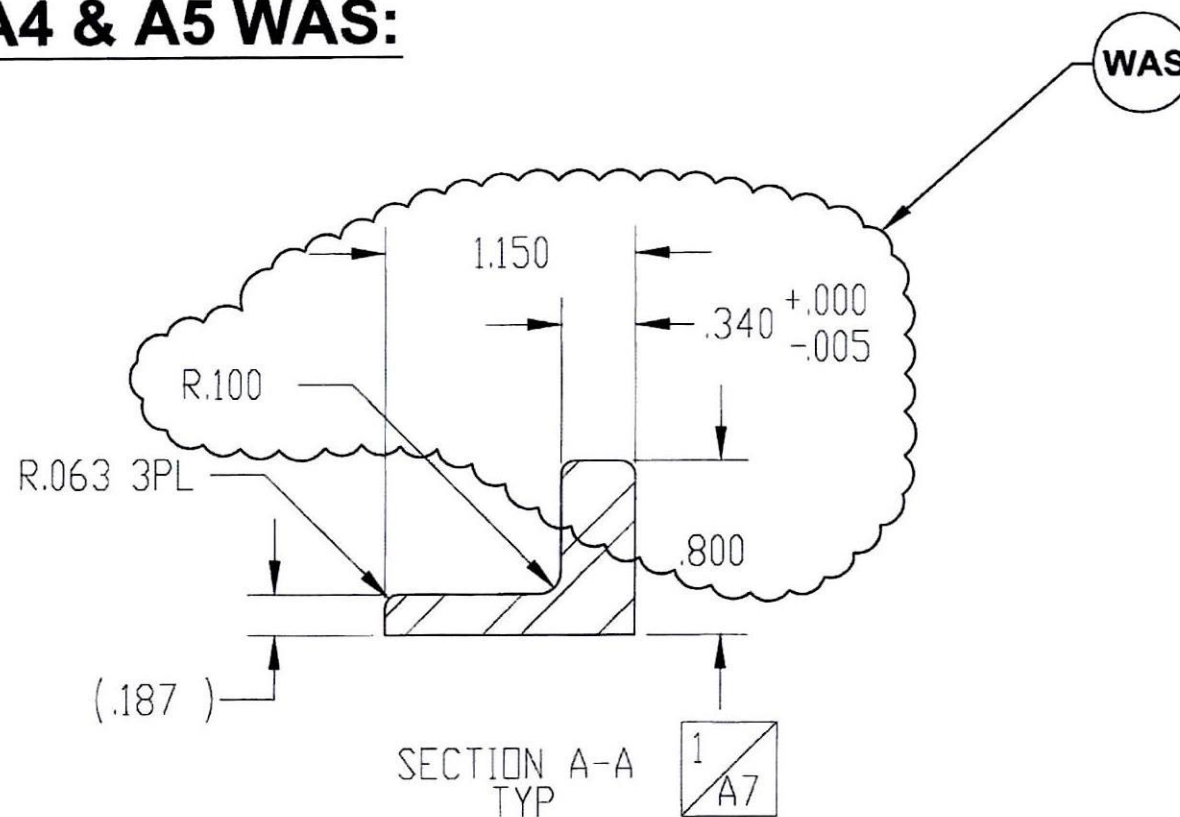
JAN 31 2018

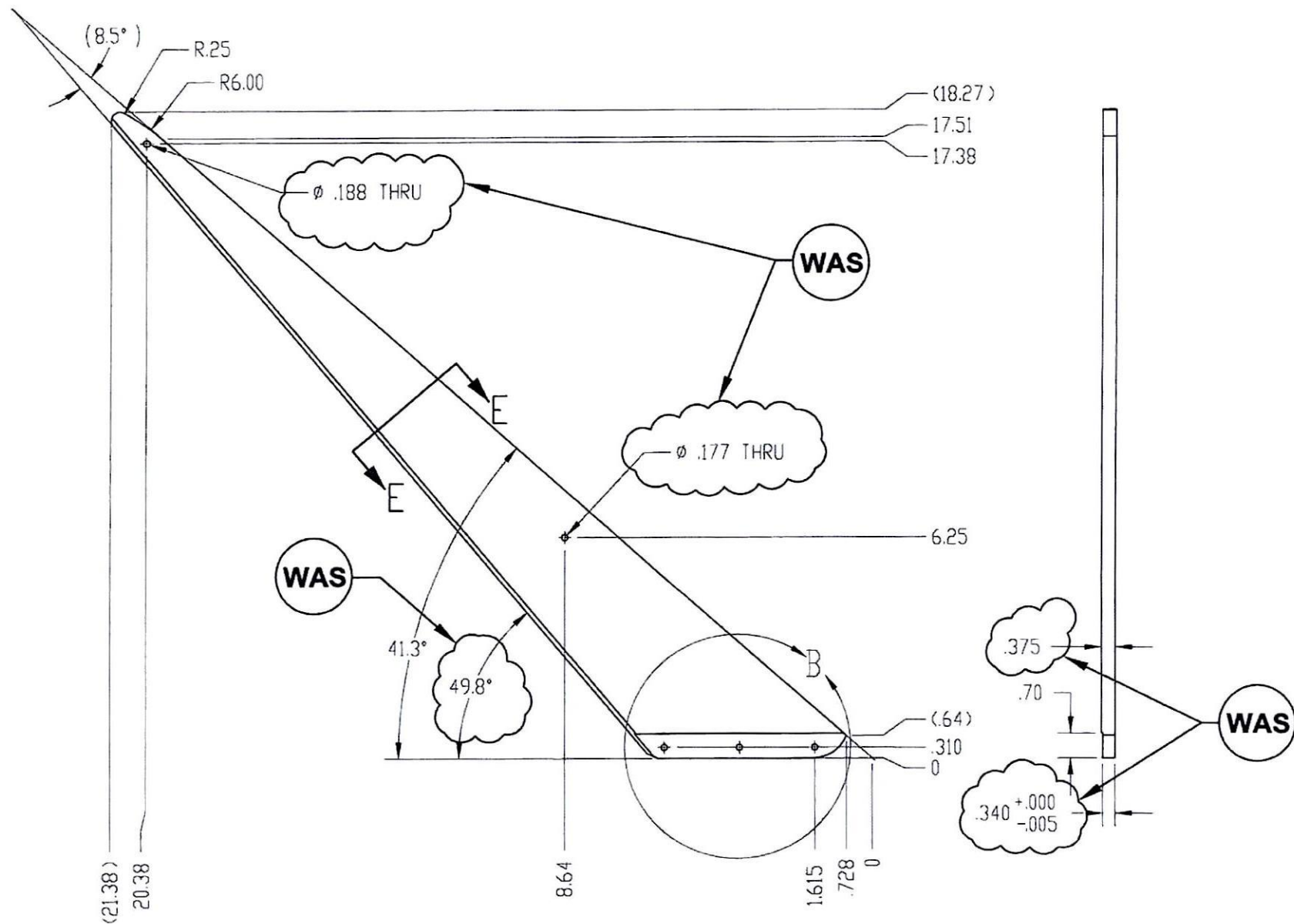
DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM

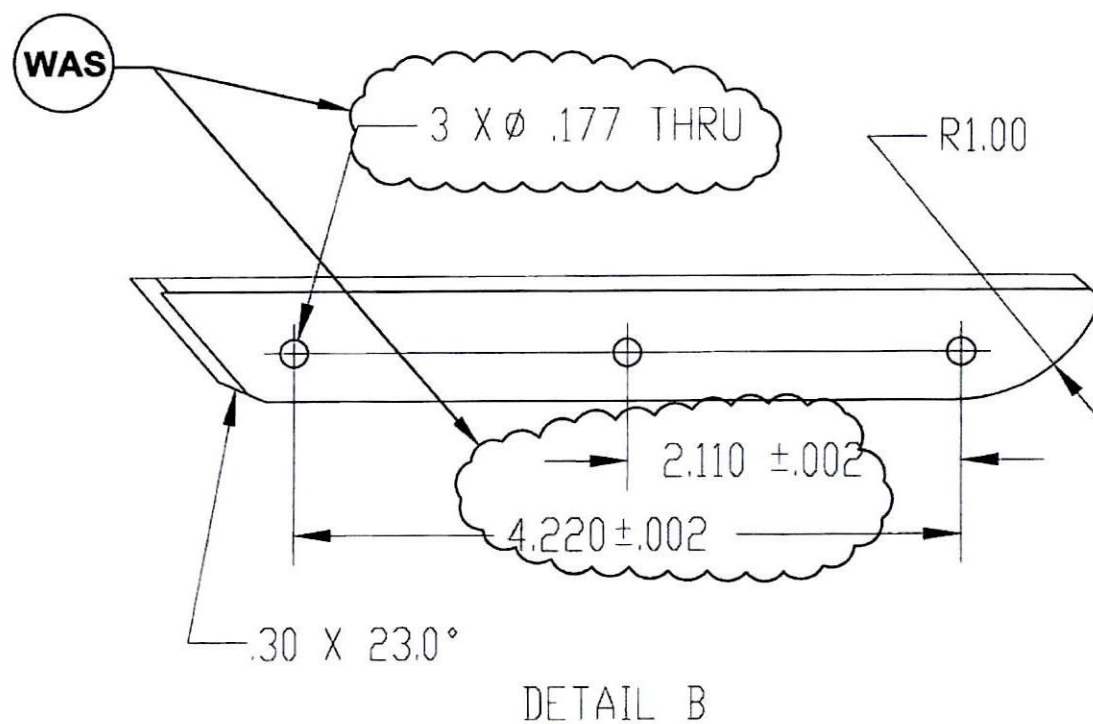
CHANGE CATEGORY
☐ MAJOR ☒ MINOR

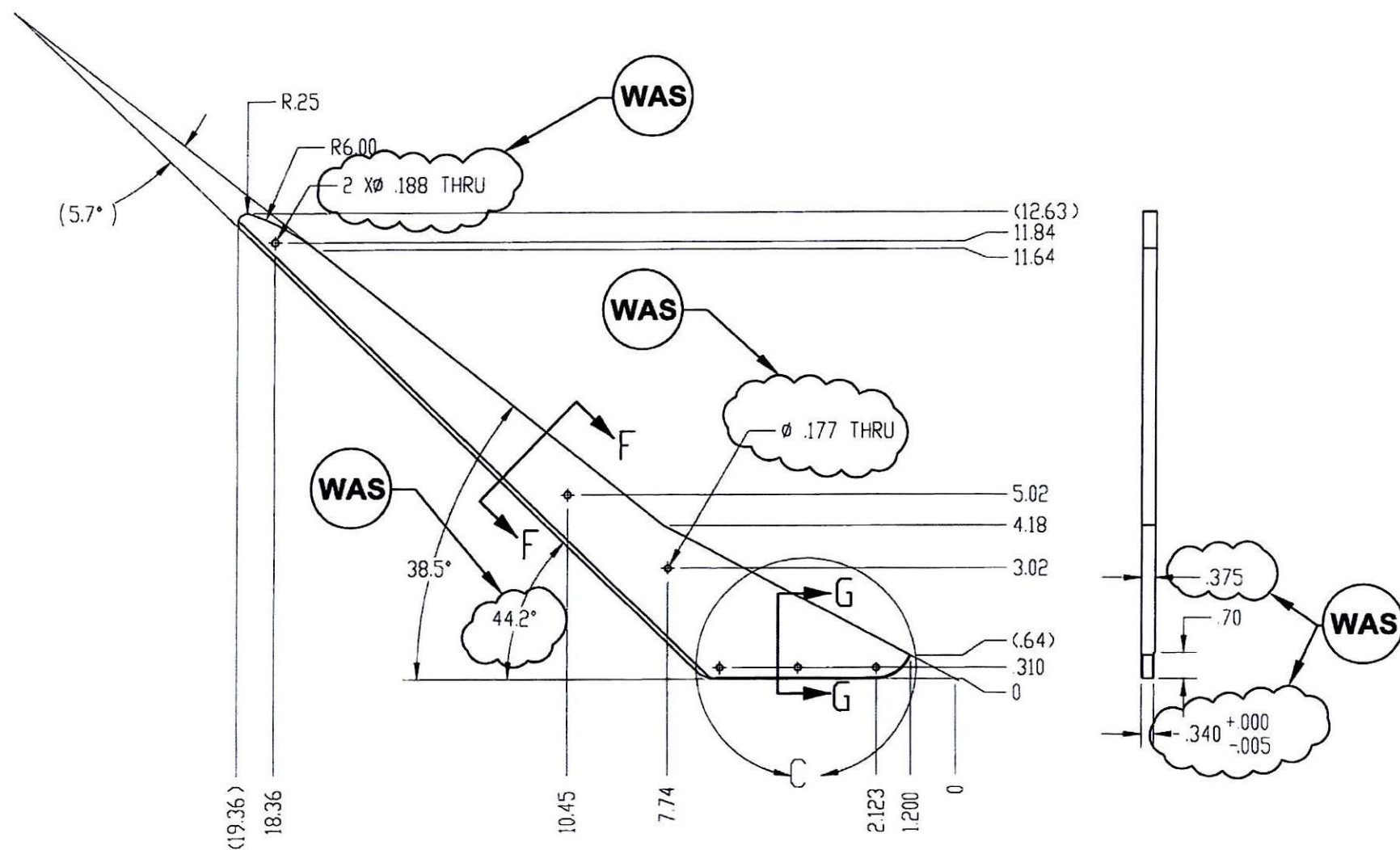
DER REVIEW REQUIRED
☐ YES ☒ NO

SHEET 3, ZONE A4 & A5 WAS:

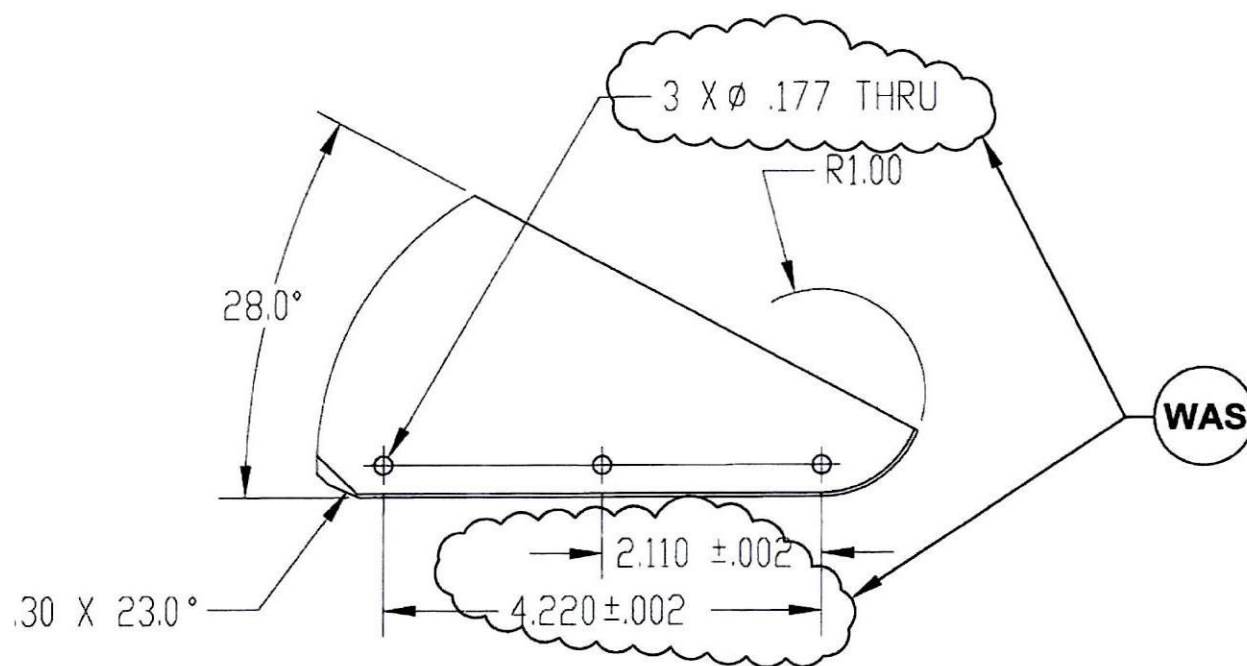
SHEET 4, WAS:

SHEET 4, ZONE C7 & C8 WAS:

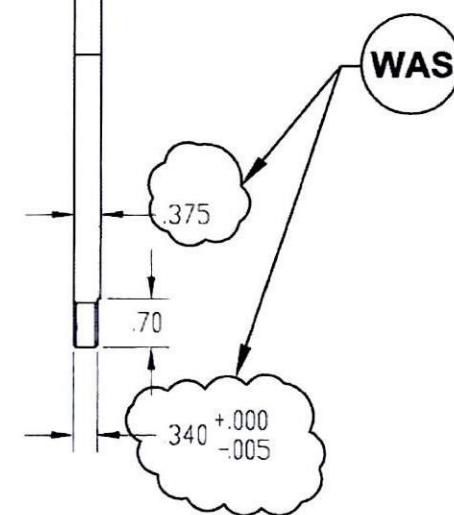
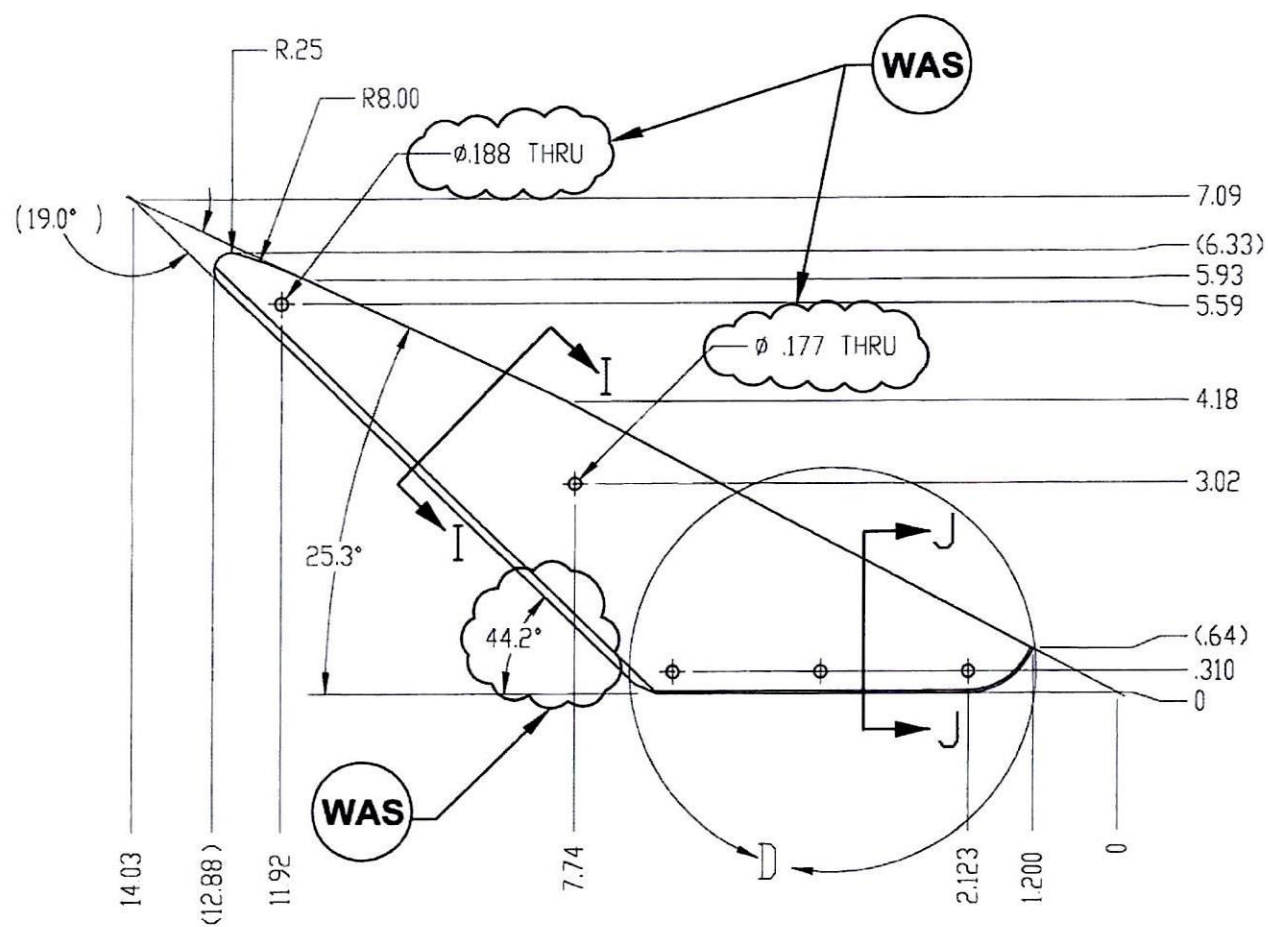


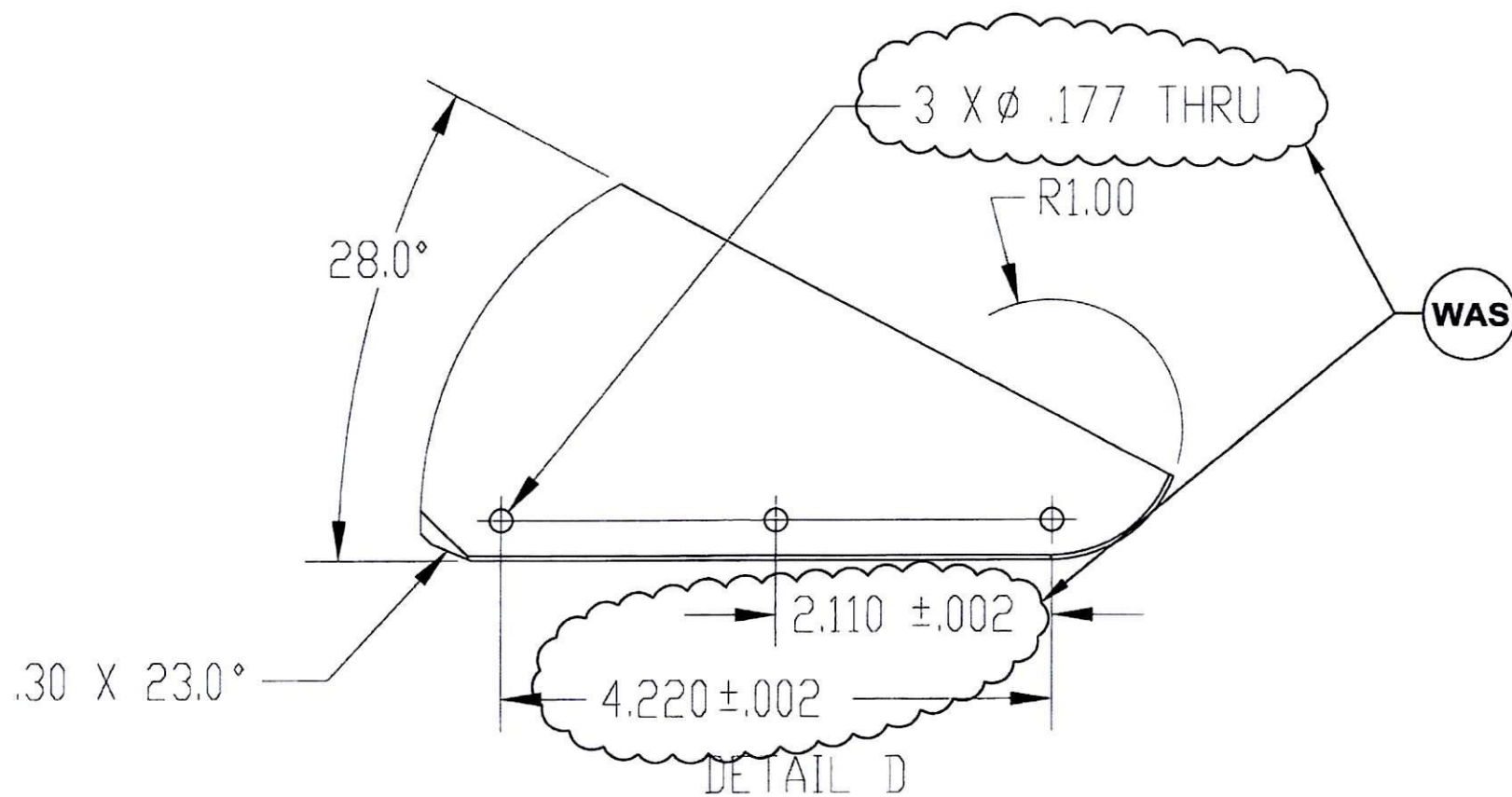
SHEET 5, WAS:

SHEET 5, ZONE C8, D7, & D8 WAS:



DETAIL C

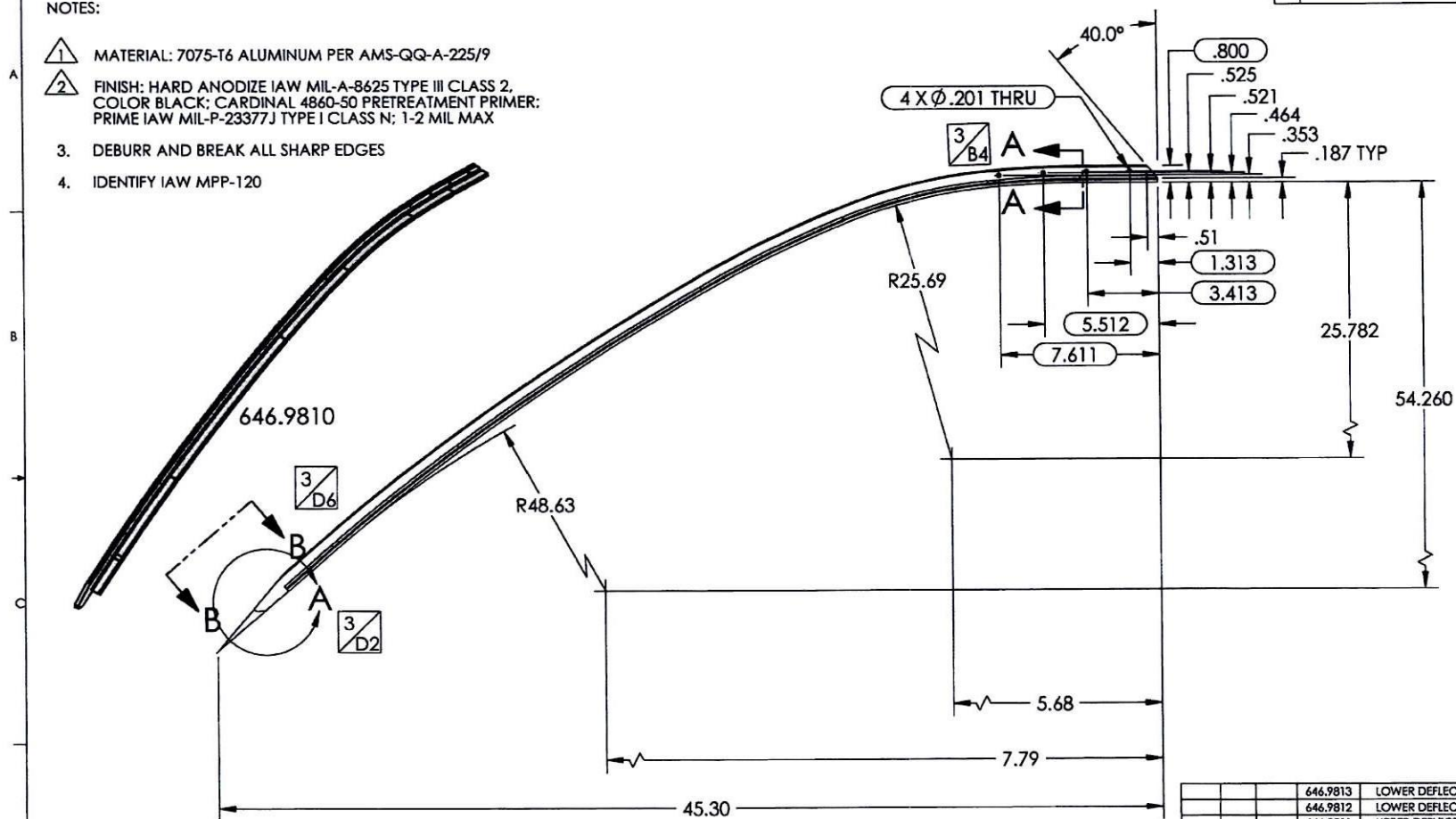
SHEET 6, WAS:

SHEET 6, ZONE C6 & D6 WAS:

NOTES:

1. MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-225/9
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III CLASS 2.
COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER;
PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120

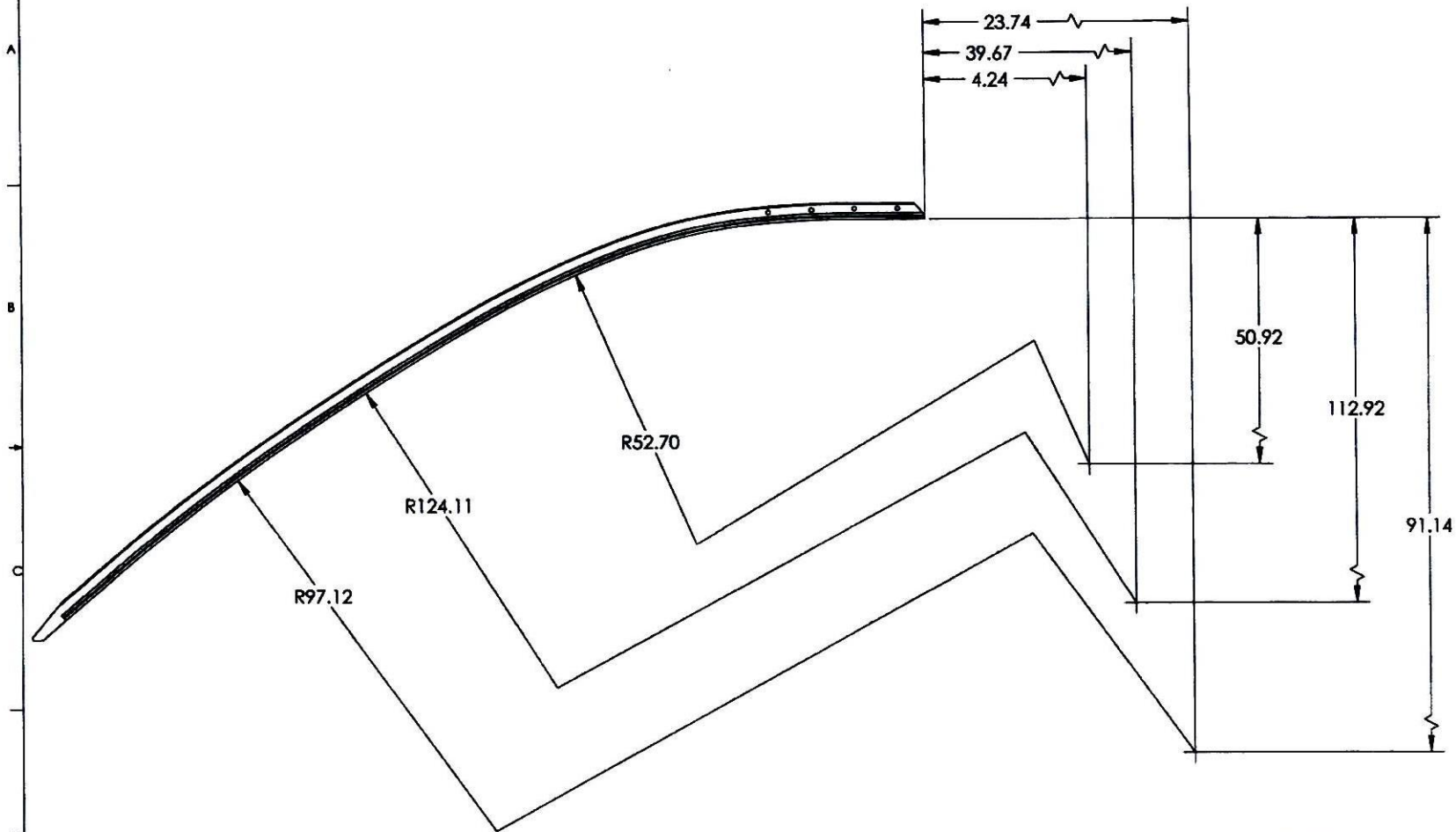
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
N/C	INITIAL RELEASE	04/23/09	P. MAYO
A	INCORPORATED ECU 03825	03/19/13	P. MAYO



		646.9813	LOWER DEFLECTOR LOW	△	△
		646.9812	LOWER DEFLECTOR HIGH	△	△
		646.9811	UPPER DEFLECTOR	△	△
		646.9810	DEFLECTOR	△	△
	FIN#	PART NO.	DESCRIPTION	MAT'L	SPEC
QTY			PARTS LIST		
NEXT ASSY (S)			APICAL INDUSTRIES		
646.9500			2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92036-3512 (760)724-5300		
ORIGINAL DATE 10-23-79 DRAWN BY J. JACKSON P. BRAYVO PRINTING APPROVAL 10-23-79 CONTRACT NO.			DEFLECTOR SEE 646.9800 SCALE NONE		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.02 3 PLACE DECIMALS ±.010 ANGLES .5°			ENG. NO. 07/2M.6 646.9800 SHEET 1 OF 4		

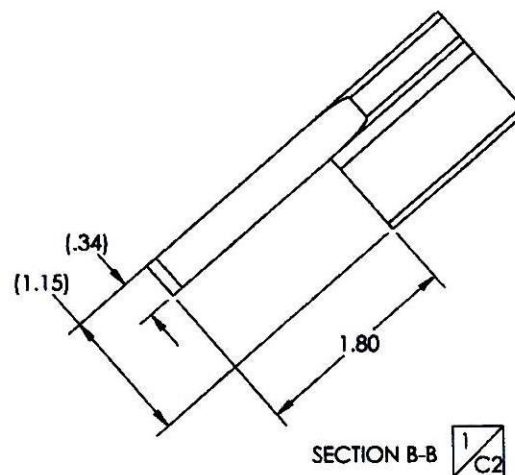
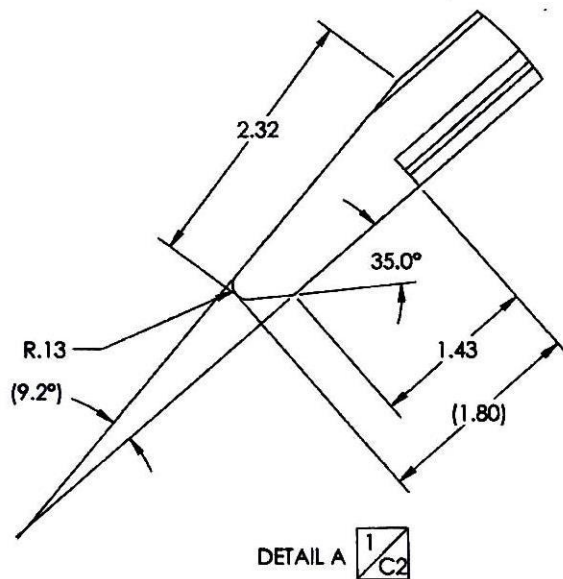
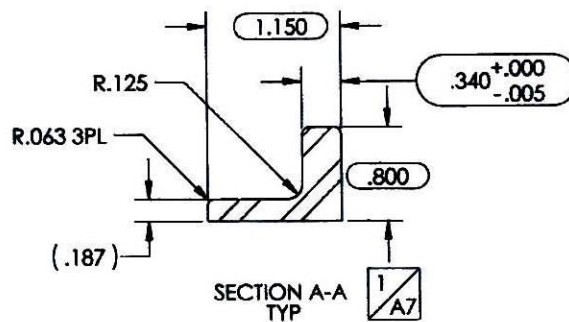
1 2 3 4 5 6 7 8

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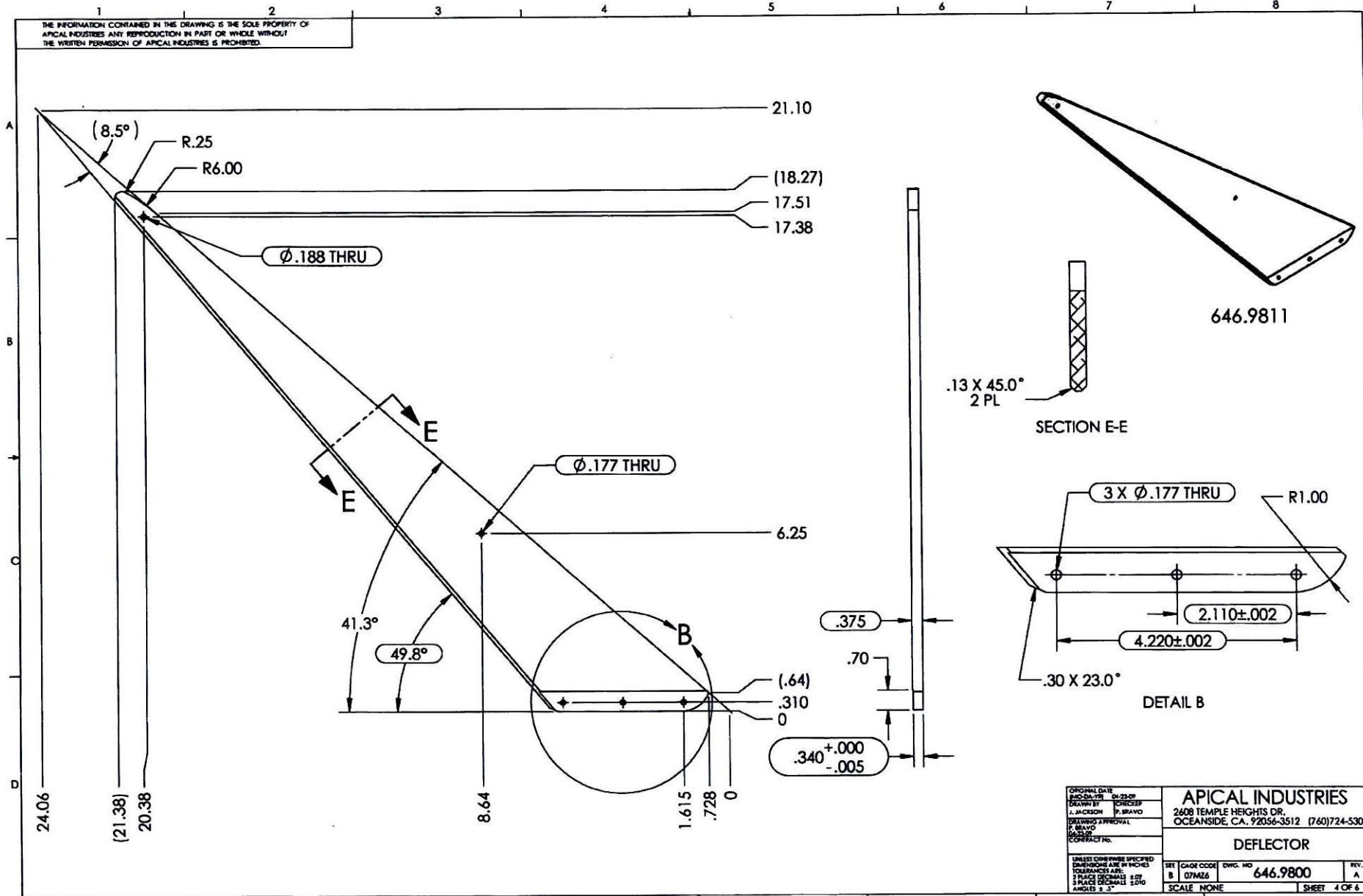
ORIGINAL DATA INCHES: 1/8" 3/16" 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 3 1/2" 4" 4 1/2" 5" 5 1/2" 6" 6 1/2" 7" 7 1/2" 8" 9" 9 1/2" 10" 11" 12" 14" 16" 18" 20" 22" 24" 26" 28" 30" 32" 34" 36" 38" 40" 42" 44" 46" 48" 50" 52" 54" 56" 58" 60" 62" 64" 66" 68" 70" 72" 74" 76" 78" 80" 82" 84" 86" 88" 90" 92" 94" 96" 98" 100"		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY: J. JACKSON CHECKED BY: P. BRAVO DESIGNED BY: P. BRAVO CONTRACT NO.		DEFLECTOR	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.02 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REV: 07/02/06	REV: A
SCALE: NONE		SHEET 2 OF 4	

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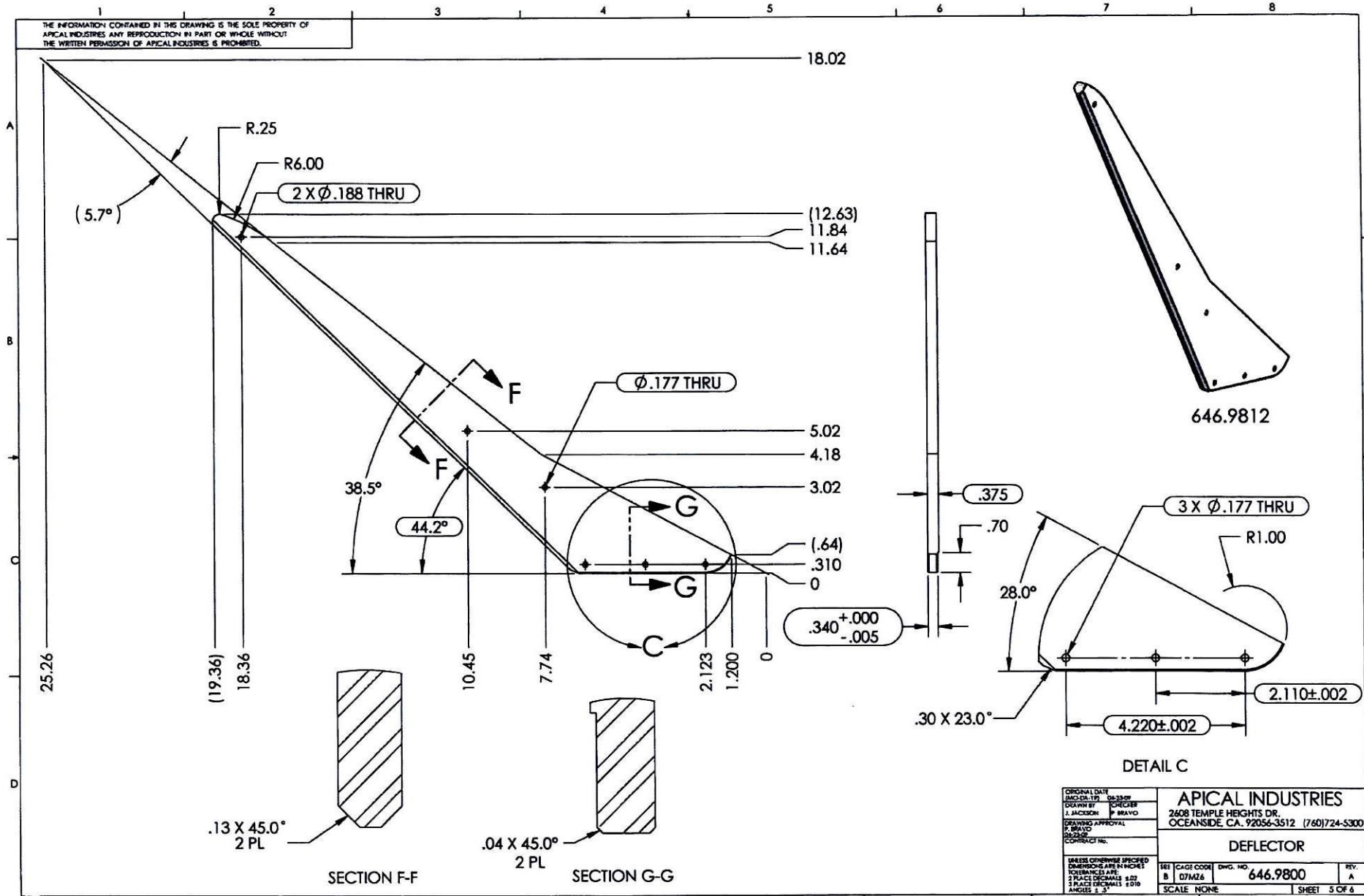
ORIGINAL DATE: 04-25-09		APICAL INDUSTRIES	
DRAWN BY: J. ANDERSON		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. BRAYO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DESIGNED APPROVAL: P. BRAYO		DEFLECTOR	
CONTRACTING:		SCALE: NONE	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.		REV. A	
TOLERANCES ARE:		SHEET 3 OF 6	
3 PLACES DECIMALS ±.003			
2 PLACES DECIMALS ±.005			
ANGLES ± 5°			

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ORIGINAL DATE 1-20-01 DRAWN BY J. JACKSON DESIGNED APPROVAL P. BRAVO 04-01-01 CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS .005 2 PLACE DECIMALS .010 3 PLACE DECIMALS .010 ANGLES .5°		DEFLECTOR REV. A	
SET (GAGE CODE) B 07M26	DWG. NO. 646.9800	SCALE NONE	
		SHEET 4 OF 6	

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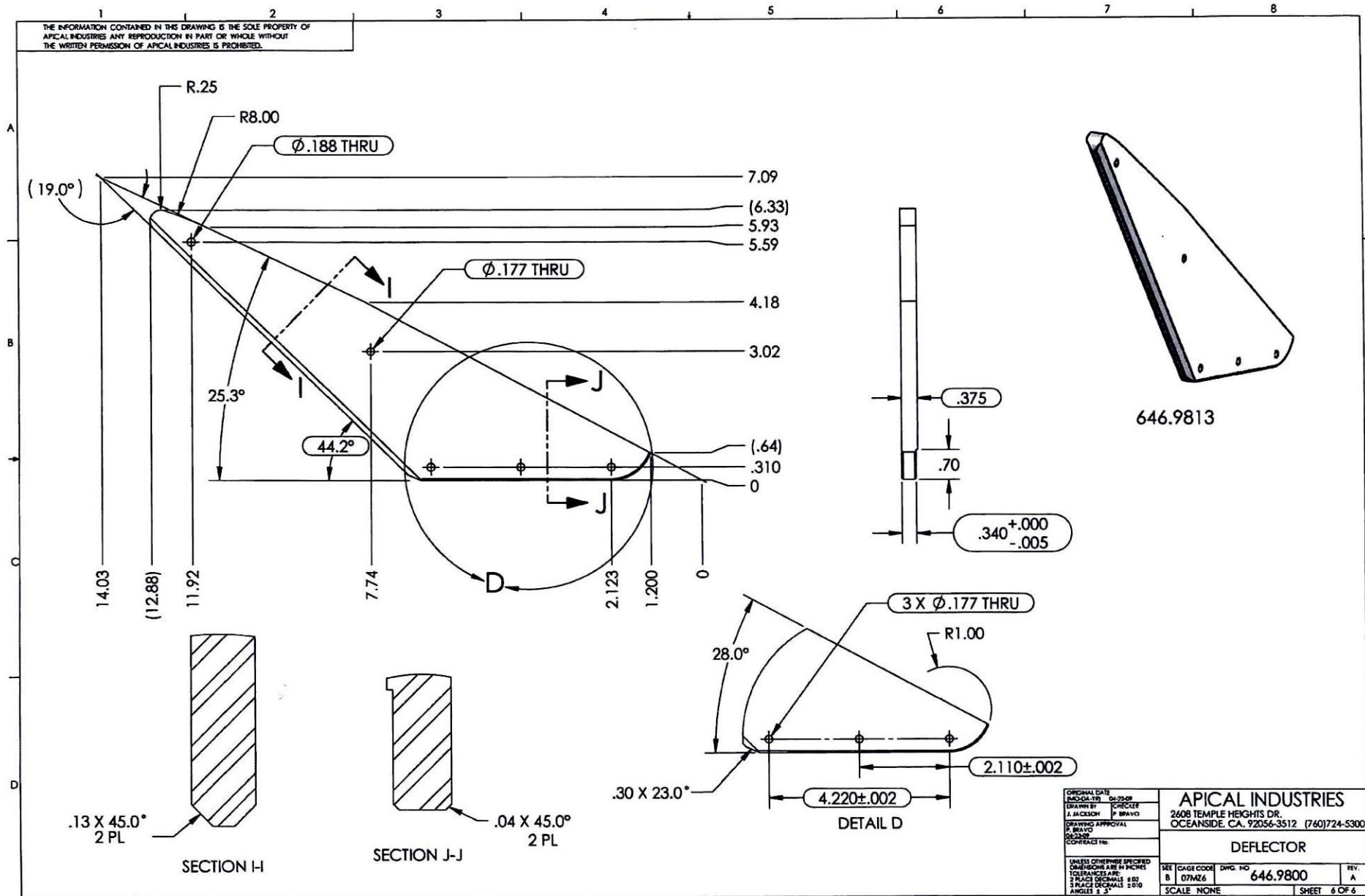


ORIGINAL DATE (M/D/Y) 06/30/88		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300			
DRAWN BY P. BRAVO					
CHECKED BY P. BRAVO					
CONTRACT NO.		DEFLECTOR			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.02 3 PLACE DECIMALS ±.010 ANGLES ±.5°					
REV.	CAGE CODE			DWG. NO.	REV.
B	D7M26			646.9800	A
SCALE NONE				SHEET 5 OF 6	

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTOR

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ORIGINAL DATE INCHES: 1/8" 3/16" 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 4" 6" 8" 10"		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWN BY J. JACKSON	CHECKED P. BRAVO	DEFLECTOR	
DESIGNED APPROVAL P. BRAVO	CONTRACT NO.	REV. A	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.02 3 PLACE DECIMALS ±.010 ANGLES 1°		SEE CAGE CODE B 07M26	DWG. NO. 646.9800
SCALE NONE		SHEET 6 OF 6	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039623**

Supplier: ATG001-VC
A.T.G. Industries Inc
731 INDUSTRIELLE ROAD
ROCKLAND
ON
K4K 1T2 Canada
Phone: 613-446-4544
Fax: 613-446-4556

Attention: Lalande, Marc-Andre

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO039623
PO Date: 4/17/18
Due Date: 4/25/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174115	646.3012	Lower Guide Issue P/O to ATG : Hard Anodize, Color Black and Prime as per Dwg 646.3000	Firmed	4/25/18	6 pcs	0 pcs 6x	6 pcs	\$22.40/pcs At 18/04/24	\$134.40
2	174107	646.3312	Center Plate Issue P/O to ATG : Hard Anodize Color Black, Prime as per Dwg 646.3300 Rev. N/C	Firmed	4/25/18	6 pcs	0 pcs	6 pcs	\$14.55/pcs	\$87.30
3	175986	646.3719	Doubler Issue P/O ATG, balck anodize and prime as per dwg 646.3719 Rev. A	Firmed	4/25/18	12 pcs	0 pcs 12x	12 pcs	\$8.75/pcs At 18/04/25	\$105.00
4	171185	646.9813	Lower Deflector Low Issue P/O to ATG : Hard Anodize Black and Prime as Per Dwg 646.9800 Rev. A	Firmed	4/25/18	8 pcs	0 pcs 8x	8 pcs	\$13.65/pcs At 18/04/25	\$109.20
5	175036	647.3910	412 Upper Deflector Issue P/O to ATG : 1- Black Anodize as per Dwg 647.3900 2- PRIME AS PER DWG, SEE NOTE #9	Firmed	4/24/18	8 pcs	0 pcs 8x	8 pcs	\$14.55/pcs At 18/04/24	\$116.40
Line Item Note **big rush, need ASAP **										
6	175749	D2348	Wearplate (Key Way) Issue P/O: Black Anodize per Dwg D2348 Rev. C	Firmed	4/25/18	30 pcs	0 pcs 30x	30 pcs	\$7.00/pcs At 18/04/24	\$210.00

DAS
11
9-89

